

What is claimed is:

1 1. A method for introducing micro-volume liquid
2 comprising:

3 providing a multi-channel inkjet print head
4 including a cartridge and a nozzle plate with a
5 plurality of nozzles, wherein the cartridge
6 includes a plurality of channels, communicating
7 with the nozzles on the nozzle plate, and a
8 plurality of openings located at the channels;

9 contacting the nozzle plate with a buffer;

10 introducing the buffer into the channels via the
11 nozzles by providing a pressure; and

12 introducing reagents into the channels via the
13 openings.

1 2. The method as claimed in claim 1, wherein the
2 buffer excludes biomolecules therein.

1 3. The method as claimed in claim 1, further
2 comprising:

3 after introducing the buffer into the channels,
4 removing part of the buffer from the channels.

1 4. The method as claimed in claim 3, wherein the
2 volume of the removed buffer is not less than the volume
3 of the introduced reagents.

1 5. The method as claimed in claim 1, wherein the
2 pressure is positive so that the buffer is pushed into
3 the channels via the nozzles.

1 6. The method as claimed in claim 1, wherein the
2 pressure is negative so that the buffer is drawn into the
3 channels via the openings.

1 7. The method as claimed in claim 6, wherein the
2 negative pressure is generated by vacuuming the openings.

1 8. The method as claimed in claim 1, wherein the
2 reagents include biomolecules therein, and the
3 biomolecules are oligonucleotides, peptides, proteins, or
4 derivatives thereof.

1 9. The method as claimed in claim 1, wherein the
2 reagents are introduced into the channels by pipettes.

1 10. An apparatus for introducing micro-volume
2 liquid comprising:

3 a multi-channel inkjet print head including
4 cartridge and a nozzle plate with a plurality
5 of nozzles, wherein the cartridge includes a
6 plurality of channels, communicating with the
7 nozzles on the nozzle plate, and a plurality of
8 openings located at the channels;

9 a container for receiving a buffer, wherein the
10 buffer and the nozzle plate are in contact;

11 a pressure supply for providing pressure to the
12 multi-channel inkjet print head so that the
13 buffer is introduced into the channels; and

14 an injector, disposed in the channels, for receiving
15 a reagent therein and introducing the reagent
16 into the channels via the openings.

1 11. The apparatus as claimed in claim 10, further
2 comprising:

3 an absorber, disposed in the channels, for removing
4 a predetermined amount of the buffer from the
5 channels.

1 12. The apparatus as claimed in claim 10, wherein
2 the pressure supply communicates with the container, and
3 provides a positive pressure to the container so that the
4 buffer is pushed into the channels.

1 13. The apparatus as claimed in claim 10, wherein
2 the pressure supply communicates with the openings, and
3 provides a negative pressure to the channels so that the
4 buffer is drawn into the channels.

1 14. The apparatus as claimed in claim 10, wherein
2 the reagents includes biomolecules therein, and the
3 biomolecules are oligonucleotides, peptides, proteins, or
4 derivatives thereof.

1 15. The apparatus as claimed in claim 10, wherein
2 the buffer excludes the biomolecules.

1 16. The apparatus as claimed in claim 10, wherein
2 the injector is a pipette.